

COMMENTS

**Technical Memorandum: Updated Exposure Assumption Tables Deliverable to USEPA Region 2
Dated August 20, 2015**

| <u>No.</u> | <u>General Comments</u> |
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| 1 | Age ranges for non-adult receptors are presented with different formats, sometimes with just the "<" symbol (e.g., "age 1<7" and "1 < 7 years old"), sometimes including the word "to" (e.g., "7 to < 19 years old"). For consistency and clarity, please use the "x to < y" format for age ranges throughout these tables and in the text for the non-adult receptors. |
| 2 | <p>For the young child (age 1 to <7), body weight and surface area data for the final year in this age group (i.e., age 6 to <7) were based on summary statistics for somewhat older children (i.e., age 6 to <11). This skewed the estimated exposure parameter values higher than they should be for the young child. For body weight, use data that focuses more closely on the age 6 to <7 in the calculations, as indicated in the specific comments below.</p> <p>Surface area data specific to age 6 to <7 is not presented in the 2011 EFH. Therefore, no change is proposed to the young child surface area calculations presented in the Technical Memorandum. The potential for this parameter to be slightly overestimated because of the use of data for older children (age 6 to <11) should be mentioned in the text.</p> |
| 3 | Base whole body surface area values for children on data for males and females combined, and not on data for males alone. This results in a minor change to the updated value for the young child (age 1 to <7). In addition, the whole body surface area for adolescents (age 7 to <19) should not change from the value of 14,800 cm ² . |

| <u>No.</u> | <u>Page No.</u> | <u>Specific Comments</u> |
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| 4 | Page 2, Body Weight, First Bullet and Attachment Table 1 | The young child (age 1 to <7) body weight is overestimated by including the body weight of a child age 6 to <11 (31.8 kg) to represent the weight of a child age 6 to <7. Based on data from NHANES IV (1999-2002) in Table 8-24 of the 2011 EFH, the mean body weight for a child age 6 to <7 is 22.5 kg. Use this value in the calculations in Attachment Table 1. Change the updated body weight for the young child (age 1 to <7) from 19 kg to 17 kg. |
| 5 | Page 2, Body Surface Area, First Bullet, First and Second Sub-bullets | Add the following information to the sub-bullets regarding child (age 1 to <7): The young child (age 1 to <7) surface area may be overestimated by using the surface area data for an older child (age 6 to <11) to represent the surface area of a child age 6 to <7 in the calculations. |
| 6 | Page 2, Body Surface Area, First Bullet, Second Sub-bullet | Change the whole body surface area for the young child (age 1 to <7) from 7,517 cm ² to 7,500 cm ² . This reflects using the data for males and females combined, rather than just males. |

| <u>No.</u> | <u>Page No.</u> | <u>Specific Comments</u> |
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| 7 | Page 2, Body Surface Area, First Bullet, Fourth Sub-bullet | Remove this sub-bullet about adolescent (age 7 to <19) whole body surface area. The value for this parameter does not change from what was used previously (i.e., 14,800 cm ²) based on USEPA 2011 Exposure Factors Handbook (EFH) and using male and female data combined. |
| 8 | Page 3, Surface Water Ingestion Rate | The values presented are based on the recommended mean swimming ingestion rates from USEPA 2011 EFH. Revise the second sentence as follows: "USEPA 2011 EFH provides swimming ingestion rates for both children and adults: mean values of 0.049 L/hr for children <18 years old and 0.021 L/hr for adults, and upper percentile values of 0.12 L/hr for children <18 years old and 0.071 L/hr for adults." In addition, in the uncertainty section of the report, please note that the use of upper percentile water ingestion rates for swimming would result in slightly higher risks, though still below the NCP risk range and the goal of protection of an HI = 1. |

| <u>No.</u> | <u>General Comments – Tables 4-1 through 4-7</u> |
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| 9 | Update body weight and surface area information in the tables per the specific comments above. |
| 10 | Age ranges for non-adult receptors are presented with different formats (e.g., "1 < 7 years old" and "7 to < 19 years old"). As noted in the earlier general comment, please use the "x to < y" format throughout these tables for the non-adult receptors. |

| <u>No.</u> | <u>Page No.</u> | <u>Specific Comments – Attachment Tables</u> |
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| 11 | Attachment Table 1, Calculation of Body Weights for Child Age Groups, Young Child (Age 1 to <7 Years) | For a child age 6 to <7, use the data from NHANES IV (1999-2002) in Table 8-24 of the 2011 EFH (i.e., 22.5 kg) instead of the body weight data of a child age 6 to <11 (31.8 kg) from Table 8-1 of the 2011 EFH. Change the updated average body weight for the young child (age 1 to <7) from 19 kg to 17 kg, and add a footnote referencing USEPA 2011 EFH, Table 8-24. |
| 12 | Attachment Table 2, Calculation of Body Surface Area for Child Age Groups | Mean Total Area in these tables should be based on data from Table 7-1 of USEPA 2011 EFH (for males and females combined) rather than Table 7-10 of USEPA 2011 EFH (male), and footnote (c) should be updated to reflect this change. |